

II. Remarks

Reconsideration and allowance of the subject application are respectfully requested.

Claims 17-20, 22-29, 31, and 33-41 are pending in the application. Claims 17, 20, and 31 are independent. Certain claims have been amended for clarity with respect to the specification and Drawings, and not in response to any statutory requirement.

Claims 17-41 were rejected under 35 U.S.C. § 103(a), as being unpatentable over EPO 0644030A2 ("Arai") in view of Louwagie, for the reasons noted at page 3 of the Office Action. Applicants respectfully traverse all art rejections.

The Office Action reveals that impermissible hindsight reconstruction has been used to combine non-analogous art to produce the claimed invention. In particular, the Office Action acknowledges that Applicants' application teaches that the claimed invention "minimizes wiring and prevents processing bottlenecks" in the system controller. See paragraph [0032] (first full paragraph on page 10), and paragraph [0010] (the paragraph bridging pages 3 and 4) of the specification. Yet, the Office Action uses precisely the same suggestion to combine Arai and Louwagie. This is classic hindsight reconstruction.

Hindsight combination of references is not a valid basis for rejection under 35 U.S.C. §103, *In re Adams*, 148 U.S.P.Q. 742 (CPPA 1966) and *In re Skoll*, 187 U.S.P.Q. 481, 484 (CCPA 1975).

Further, in *Twin Disc Inc. v. United States*, 10 Cl. Ct. 713; 231 U.S.P.Q. 417, 425 (Cl. Ct. 1986), the Court stated:

... it is now clear beyond cavil that it is not permissible to ascertain factually what the inventors did and then view the prior art in such a manner as to select from the random facts of that art only those which may be modified and then utilized to reconstruct the claimed invention.

Citing *Orthopedic Equipment Co., Inc. v. United States*, 702 F.2d 1005, 1012; 217 U.S.P.Q. 193, 199 (Fed. Cir. 1983), the Court in *Twin Disc* further stated that it is incorrect to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness, and a Notice of Allowance or a new Office Action is respectfully requested.

Moreover, Louwagie is not even within the same field as the present invention or in an analogous art field. (See *In re Clay*, 966 F.2d 656, 658 (Fed.Cir.1992)). In an obviousness analysis, the first consideration is to whether or not the art is from the same field. By the patentee's own admission, Louwagie relates to a transmitter, whereas the present application relates to a means for controlling hydraulic actuators in an injection molding machine. Moreover, the present invention relates to a particular application of a control system (U.S. cl 700) whereas

Louwagie relates to measuring and calibrating (U.S. cl 702).

The second consideration is to whether or not the reference still is reasonably pertinent to the particular problem with which the inventor is involved. In the present matter it is clear that the problems addressed by Louwagie (namely, to providing a field mounted multivariable transmitter that incorporates a means for calculating differential fluid pressure) does not address the problems of the present invention which clearly relate to the configuration of a control architecture for controlling hydraulic actuators.

The Office Action fails to establish any clear teaching, reason, suggestion, or motivation in the references to combine existing elements to produce the claimed device. And, as explained previously, one of ordinary skill in the art of control systems for injection molding machines would not likely have any knowledge of Louwagie, as it is in a different field and its teachings relate to fundamentally different problems (i.e. a control system v. a transmitter).

Even though Applicants maintain that the combination of Arai and Louwagie is improper, Applicants submit that Louwagie does not remedy all of the deficiencies of Arai in addressing the problems solved by the present invention. In particular, the Arai is clearly deficient in terms of providing a solution to the problems of how to configure a control architecture for an injection molding machine with improved timing control, a more

robust architecture, and an ability to account for non-linear characteristics of a hydraulic actuator. The commonality between the Arai and the present application clearly extends only to the fact that it discloses an injection molding machine with a hydraulic device that includes a requisite control system. The control system of Arai provides only a solution for the unrelated problem of calibrating a circuit for detecting hydraulic screw pressure, and is deficient insofar as teaching the solution described in the present invention wherein a processor is disposed adjacent at least one of the manifold, valve, or actuator that controls a hydraulic valve based on a resident control program and command signals from a system control processor. Louwagie does not remedy this deficiency, as the microprocessor is disposed in a housing of a transmitter that is otherwise configured for evaluating a process parameter, and not disposed adjacent at least one of the manifold, valve, or actuator that controls a hydraulic valve based on a resident control program and command signals from a system control processor.

See the below chart for a summary of the structural and functional differences between the embodiments of the present invention and the disclosures of Arai and Louwagie:

Field	Controlling hydraulic actuators in an injection molding machine	Pressure sensing device for injection molding machines	Measurement transmitter for use in gas flow measurement
Problem	<ul style="list-style-type: none"> ➤ Need to solve timing problems experienced in known actuator control architectures; ➤ Need to make a robust control architecture; ➤ Need for controlling non-linear characteristics of a hydraulic actuator. 	Need for accounting for temperature drift when detecting hydraulic screw pressure in an injection molding machines.	<ul style="list-style-type: none"> ➤ Need for a field mounted multivariable transmitter with improved update times; ➤ Need for a more accurate means for measuring differential process fluid pressure.
Solution	An injection molding machine comprising: a plurality of molding devices; a system control processor; a plurality of hydraulic actuators; a plurality of valves for providing hydraulic fluid to the actuators; at least one manifold for providing	A pressure sensing device for injection molding machines, including a pair of pressure sensors and a deviation computing unit, the device comprising: a correction value computing unit to calculate as	A transmitter in a process control system for sensing process variables, comprising: a module housing; a pressure sensor...; a process variable input for receiving a process variable signal...; an A/D converter coupled to the pressure sensor...;

	hydraulic fluid to the valves; and a processor, disposed adjacent at least one of the manifold, valve, or the actuators, the processor <u>controlling the valves based on the stored control programs and command signals</u> received from said system control processor.	a correction value; a memory wherein to store a correction value; and a pressure correcting unit to correct the detected pressure value at the time of pressure sensing, with said correction value.	compensation circuitry... providing a compensated output; an electronics housing...; a microprocessor for calculating a process parameter...; and output circuitry for transmitting the process parameter on a control loop.
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Applicants respectfully submit that Arai and Louwagie, whether taken alone or in combination, do not provide a solution to the problem solved by the present invention. Hence, in view of the pending claims, neither Arai nor Louwagie (nor their combination) discloses the novel non-obvious combinations of structure and function set forth in the claims

Accordingly, the salient claimed features of the present invention are nowhere disclosed or suggested by the cited art, whether that art is taken individually or in combination.

In view of the above remarks, it is believed that this application is now in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3507. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Zavis Rosenman", written over a horizontal line.

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